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09/451,208	11/29/1999	ALEX KRISTER RAITH	8194-252	8753

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MYERS BIGEL SIBLEY & SAJOVEC  
PO BOX 37428  
RALEIGH, NC 27627

EXAMINER

KUMAR, PANKAJ

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 09/29/2003

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 14

Application Number: 09/451,208

Filing Date: November 29, 1999

Appellant(s): RAITH ET AL.

\_\_\_\_\_  
Robert M. Meeks  
For Appellant

**EXAMINER'S ANSWER**

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This is in response to the appeal brief filed 7/17/2003.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

Claims 1-15, 17, 19-26, 30-40, 42-46, 51-60, 62-65 are rejected as stated in the advisory action.

Claims 16, 18, 27-29, 41, 47-50, 61 are allowed as stated in the advisory action.

Claim 44 was a typographical mistake in the allowed line of the advisory action. Claim 44 was nevertheless rejected in the rejected line of the advisory action and this was also stated in various office actions.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

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**(6) Issues**

The appellant's statement of the issues in the brief is correct. It is also noted that as stated in prior actions, claim 44 is also rejected under 35 U.S.C. 103(a) as being unpatentable over Burshtein.

**(7) Grouping of Claims**

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because the appellant has three groups but then says "may be considered as standing or falling together". The office does not agree with the "may be" phrase. The office agrees that there are three groups of claims and each of these three groups do stand or fall together.

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

6,112,325

Burshtein

8-2000

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-11, 21-26, 30-36, 44-46, 51-54 and 63-65 are rejected under 35 U.S.C. 103(a).

This rejection is set forth in prior Office Action, Paper Nos. 5 and 7.

Claims 12-15, 17, 19-20, 37-40, 42-43, 55-60, 62 are rejected under 35 U.S.C. 102(e).

This rejection is set forth in prior Office Action, Paper Nos. 5 and 7.

**(11) Response to Argument**

Groups 1 and 2 are substantially the same and the entirety of both of these groups have been rejected under 35 U.S.C. 103(a). Hence the same arguments that apply for group 1 also apply to group 2.

It should be noted at the outset that although appellant claims a prior communication, appellant also claims the prior communication on “the signal” (emphasis added). This means that it is the same signal being referred to in the prior communication limitation. This means that there is no prior signal that the claim is referring to. Accordingly, there is only one signal. Since there is only one signal, the claim CANNOT mean that there was one signal at time t1 and then a second signal at time t2 and the decoding on the second signal is based on the first signal.

Appellant argues that the receiver components are not stations. This argument is not persuasive. Data is passing through receiver components in the reference just like data passes through stations in the claims. Hence, the receiver components in the reference can be interpreted to be the stations in the claims.

In both groups 1 and 2, there are a set of decoders in one decoder block (appellant's figure 10 element 1012-1 to element 1012-n)(Burshtein fig. 5: 102, 104, 106, 108), which determines a likelihood (appellants claims)(Burshtein fig. 5: 102 to 108 are likelihood estimators). A decision is made to select a code based on the likelihood (appellant fig. 10: 1020)(Burshtein fig. 5: 110). Thus, the appellant and Burshtein are both choosing a code based on the likelihood.

The only way that appellant's claims are different from Burshtein for both groups 1 and 2 is in the fact that the appellant claims affect the choosing of the code based on a bias or prior

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communication signal while Burshtein affects the choosing of the code based on quality factors (Burshtein: signal to noise ratio with  $c/r_o$  squared in the equations throughout the patent such as the equations in columns 5 and 7 which would be qualified as one of the quality factors discussed in col. 19 paragraphs 4-5). So, likelihood is not the only factor in choosing the code; appellant uses a secondary factor by applying a signal to affect which code is chosen while Burshtein uses a secondary factor called quality factor to determine which code is chosen. For group 1, appellant applies the signal at the code selector to affect the final generated estimate while in group 2, appellant applies the signal at the initial decoder to affect the final generated estimate.

Burshtein teaches likelihood in fig. 5 as explained above. Burshtein also teaches signal to noise ratio with  $c/r_o$  squared in the equations throughout the patent such as the equations in columns 5 and 7 which would be qualified as one of the quality factors discussed in col. 19 paragraphs 4-5. Such quality factors would affect the final decoded signal in fig. 5 just like the bias or prior communication signal would affect appellant's final generated signal. Thus, both the appellant and Burshtein have a likelihood as well as a secondary factor that affect the code that is chosen.

As per group 3, what the appellant has claimed is "identifying the code". As indicated in the advisory, CRC (circular redundancy check) field is generated by applying a known code to the CRC field based on data in the data field and hence the CRC generated is a redundant form of data. The error detection using a CRC is performed by populating a CRC field based on the data field. The appellant seems to have misunderstood the way CRC works. Accordingly, the next few paragraphs explain the basics of CRC. In one example of a CRC rule, if a packet

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contains 2 bits in the data field and 1 bit in the CRC field, if any of the two data bits are 1, then the CRC bit will be a 1; if both data bits are 1 or both are 0 then the CRC bit will be a 0. This is a standard exclusive-or operation. When the receiver receives the packet, if the receiver gets a 110 then the receiver will believe the packet to be correct. However, if the receiver receives 111, then the receiver knows that the packet has corrupted data. Hence, the CRC field is identifying the code in the data field.

Applicant points to the method steps described in col. 6 of Burshtein and indicates that Burshtein uses a CRC field but does not say that there is a data field. This is inaccurate since Burshtein shows the basics of CRC with information bits (i.e. data field) and CRC bits (i.e. CRC field) in table 1 of col. 2. The method steps described in col. 6 of Burshtein are particular to Burshtein. Having a data field is a basic element and it is inherent when used in conjunction with a CRC field.

By Burshtein using the term CRC, there inherently is a data field and a CRC field (Burshtein col. 2: table 1) and these two fields are used to check the packet for corruption. Appellant says that the receiver knows the CRC field that was transmitted and so it compares it with the received CRC field. This is not accurate since there is no necessity for this to occur. Burshtein does not indicate this either. In fact, Burshtein teaches in col. 2 about a receiver and then teaches in table 1 of receiving information bits and CRC bits from the transmitter. Given this, Burshtein is not comparing transmitted CRC to received CRC since the only CRC information the receiver receives is the CRC bits from the transmitter. The receiver then applies the CRC rules to determine whether the packet is corrupt (Burshtein col. 3 lines 47-55 "... provides the decoded frame to the receiver when ... there are no CRC errors ...")

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Appellant argues that the quote on page 11 of the appeal brief is not shown by the reference. The appeal brief quote begins with "a signal representing a first field and a second field ...". This quote is not in any of the independent claims of group 3.

The appellant goes on to discuss another quote in the appeal brief: "indicate the code applied". This quote is also not in any of the independent claims of group 3.

The appellant goes on to say that the CRC information does not indicate that 8-PSK modulation code or QPSK modulation code is the code applied. Although, in the reference cited, CRC does not indicate this, the appellant has also not claimed this. In fact, the appellant has not even claimed a modulation code indication.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


Pankaj Kumar

PK

September 23, 2003

Conferees

Mohammed Ghayour

  
**MOHAMMAD H. GHAYOUR**  
**PRIMARY EXAMINER**

Tesfaldet Bocure

Don Vo

  
**TESFALDET BOCURE**  
**PRIMARY EXAMINER**

  
**DON N. VO**  
**PRIMARY EXAMINER**

MYERS BIGEL SIBLEY & SAJOVEC  
PO BOX 37428  
RALEIGH, NC 27627